THE DEAD SEA EXPEDITION.

BY LIEUT. M. F. MAURY.

Unfettered by the trammels of party, the Messenger is devoted to the high callings of Literature, of Science, and of whatever tends to ennoble the mind, or to advance the prosperity and happiness, the honor and the glory of this great Republic.

The Navy always has been and we hope ever will be, above the reach of party. It gallantly fought itself into being: a few fir-built frigates, with a "bit of striped bunting" at the mast-head, enacted deeds which won the admiration of a gallant people; and since the war of 1812, the Navy has been the pride and boast of every true-hearted American, of whatever political faith.

In former times, Navy matters and Navy measures have occupied prominent places on the pages of this journal. Discussions of such subjects here have always been free from party. They have ever been so conducted as to leave the Navy as far beyond the reach of the political battles of the day as they found it; and for this we have been encouraged with the loud halloo of many a gallant yeoman in the land.

We have taken up this Expedition with a double aim: first to snatch it away from party and the politician where it does not belong, and then to place it where it does belong—viz: on that page whereon are recorded those deeds by which the country has most been honored by its Navy.

What is the Navy for, and what are the duties of its officers? The Navy is for protection and safety both in peace and in war, and among the duties of its officers is legibly written the obligation to cultivate those branches of science and to undertake those researches, upon the results of which the art of navigation is founded and the safe conduct of vessels from one part of the globe to another depends.

Pirates infest the sea; the commissioned vessels in the Navy wait for no special law of Congress to go and chase them away. A man-of-war, while cruising on her station the other side of the world, discovers a danger to navigation: she does not wait even for the formality of an order from home, but proceeds forthwith to survey, examine and report upon it, as a matter of recognized duty.

Nay more: squadrons of American ships are sent abroad to make war, or maintain peace; and the officers do not hesitate, when the nature of the service admits, to survey ports and harbors, and even to make charts of entire foreign coasts.

Commodore Perry while blockading the ports of Mexico in the Gulf and waging war, occupied himself also with the survey of long lines of foreign coast, as well as of foreign ports and harbors; and there has been no one so captious as to say he had no right to do such a thing, because Congress had never directed it to be done. Among other places, that officer caused the bar and mouth of the Coatzacoalcas to be accurately surveyed, but because that river happened to be connected with the projected canal of Tehuantepec, no one ever dreamed of holding up Commodore Perry as an offender against the Constitution or the law for doing it. He did it without any special authority or instruction whatever; he did it in consequence of the duties and responsibilities which attach to him merely in virtue of his commission as an officer in the American Navy. Nay, had the youngest midshipman in the Navy, the merest stripling in the service, been sent into that river in an open boat, and while there, had he of his own head found it practicable to run lines and take soundings without interfering with the special duties which called him there, not only would his right to do it have been acknowledged, but he would have felt it his duty to do it; for the regulations of the Navy themselves make it the duty of every officer to survey and map every foreign place visited by them, provided the survey can be made without interfering with other duties. These surveys are honorable to Commodore Perry and his officers, creditable to the country and useful to the world.

We should grieve to see the energies of officers damped, and the usefulness of the Navy crippled, by any attempt to bring them and their surveys into disrepute, for mere party purposes, or for the sake of connecting naval operations abroad with the questions of internal improvement at home, which so much vex the rulers and lawgivers of the land.

A ship cannot pursue her path across the ocean without running her lines of soundings and conducting a series of observations of high interest to science and of the first importance to the safety of the vessel and the encouragement of navigation. Among those observations the pressure and the temperature of the atmosphere, the force of the wind and the set of currents, the depth of the sea, its temperature and the character of its bottom, the height of mountains, the depression of valleys, the co-ordinates of place on the globe, all that relates to the perfection of Hydrography, or tends to the improvement of geography, with a host of other matters near of kin to the science of navigation—come within the sphere and scope of Navy duty without special act of legislation. It exists *ex necessitate rei*. The mere law that established the Navy, the appropriation bill which annually passes Congress for the support of the Naval service, give the executive the power and make it the duty of officers to try currents, sound the ocean, measure altitudes and to do all those things which are necessary and convenient for the safety of navigation and the successful issue of present, as well as for the benefit of future voyages.

From these views and considerations it will readily be perceived that the power which rests with the Navy of making surveys in the Mediterranean—which has been exercised since the Tripolitan war, we might have said since the foundation of the government, and which has never been called in question before,—is derived from a source altogether different from that whence flows the power to pull up snags and improve the navigation of our own rivers and "inland seas."

The power to do the one is incidental. The mere act to maintain and support a Navy draws after it this power; it follows the Navy in all parts of the world. Its exercise is necessary to the safety of vessel and crew; for without charts, without the results of science, without the power and the right to conduct a series of scientific observations, the Navy could not be maintained. Without the lights and guides of science, a vessel of war could not be conducted from place to place—seas would be as impassable as an ocean of flame, by vessels of war.

The survey of a shoal, or the removal of a wreck from a dangerous place in a distant sea, tends to improve navigation. So also does the clearing out of snags from the western rivers, or the deepening of their channels. But the power to do the one and the other does not arise in the same way. The former is incidental to a greater power, viz: to that of maintaining a navy; the latter is special and is to be derived only from the constitution and by special legislation.

The Cumberland dam may have a great deal to do with commerce, but no one will pretend that the shoals of that river have any thing to do with the maintenance of the Navy, and curious indeed must be the constitution of that mind which can recognize in an order from the Executive to a Navy officer to survey a sheet of water up the Mediterranean, any principles applicable to improving the navigation of the Ohio.

Suppose that by some convulsion of nature the present channel from the Navy Yard at Norfolk to the sea should be filled up and a new one opened. Would any one doubt the right of the Executive forthwith and of his own accord to order the Navy to survey and buoy it out, in order that the men-of-war which might be there, and which it is his duty to keep afloat, might get to sea? Suppose the same convulsion should alter the channel, or change the course of the Mississippi river, would it not require a special act of Congress to enable him to expend even so much as a dollar in finding out a new channel there?

Special powers may become incidental and the reverse, and officers of the government may to-day have incidental powers to do certain things, which Congress itself by special act, has no right to give. Thus Congress votes supplies for an army in Mexico: the commanding officer of that army has the right to bridge streams, destroy private property, build forts, and do many other things which the public good requires, even in a foreign territory, which, to-morrow, after the return of peace, no power under the sun has the right to do—such is the character of some of the incidental powers which the bills for the support of armies and navies draw after them.

It remains now to show how the Dead Sea Expedition is connected with the well-being of the navy or the interests of navigation, in order to take away from party purposes and party abuse, this enterprise with its enlightened and patriotic projectors.

There are many phenomena presented in the Mediterranean and on its borders of exceeding interest to navigation. Among these may be mentioned the saltness of the water, and the presence of a current which runs out through the Straits of Gibraltar. Notwithstanding the well known fact that the rivers and visible sources of supply to that sea, do not afford water enough to supply evaporation from it, there is a current which runs with great violence from it into the Atlantic. For years the source of this current has perplexed navigators and puzzled philosophers. What effect might a conjectured difference of level between that sea and the Dead, have upon this current, and other phenomena?

An expedition there would improve geography, and therefore Navigation; for by giving the height of the mountains along the coast, you afford the navigator the means to determine his distance from them and to fix the place of his ship at sea, when the lights of heaven themselves may fail him in his straights.

He who elicits a fact from nature, often makes a discovery, says Humboldt, of more value than he who discovers an island in the sea. Here was presented a bundle of facts the importance and value of which, like the bearings of every new fact gathered from nature, it is impossible to foresee. This expedition could be accomplished without any, the least inconvenience to the public service, and at a cost so trifling that the sum expended upon the pole which was stuck up on the top of the Capitol, to be taken down again as a nuisance, would defray the expenses of twenty such expeditions. The spot to be explored was a mysterious one; those who had visited it before, had died, and by their fate invested it with deeper interest and shrouded it in darker mystery. From infancy up, associations of terror and awful vengeance, were, in the minds of millions, associated with the name of that spot, and throughout the entire length and breadth of Christendom, there was an eager, not an idle, curiosity with regard to it; to explore it would redound to the glory of the navy and the honor of the nation. Expeditions from other countries had been attempted and had failed. The American navy never fails; and one of its most accomplished officers, willing to risk his

life and reputation upon success, appeared entreating for leave to go. His request came before an officer of the government, a brother statesman, as high-minded, as generous and as true-hearted as himself. It was therefore entertained with respect.

Lieutenant Lynch has redeemed his pledge: he has surveyed the Dead Sea, returned in safety, he and his party, to their ship, and may ere long be expected to arrive in the United States with the rich fruits of their labor.

Lynch, who planned this expedition, is a Virginian; Mason who authorized it, is a Virginian, and could we envy the patriot any of the fruits of his labor, we should most of all covet the honors which Mason deserves for the "Dead Sea Expedition."

We have some notes which we have treasured up for the benefit of our readers, and of all who look with longing eyes and eager minds for the results of this interesting and honorable service. We offer a few of them now, perhaps we will give more of them at another time.

In the spring of 1847, Lieut. Lynch first addressed the Secretary upon the subject. "In the hopes," said that officer, "that it may receive your sanction, I respectfully submit a proposition to circumnavigate and explore lake Asphaltites or Dead Sea, and its entire coast.

"The expense will be trifling and the object easy of attainment.

"Our ships frequently touch at Acre in Syria.

"That place is forty miles distant from the foot of Lake Tiberias, or Sea of Galilee. Through and from the last, the river Jordan runs and debouches into the first named sea.

"The frame of a boat with its crew and their provisions, can be transported on camels from Acre to Tiberias. At the latter place, the boat can be put together, and the crew embark and accomplish the desired work in fifteen days.

"Arms and a tent, a few mathematical instruments, provisions and water are all that will be required. The tent can be made on board ship, temporarily used, and the canvass afterwards applied to other purposes on board ship. The arms from the ship, and the ordinary rations will suffice; and the boat itself can be safely returned.

"The Dead Sea has been circumnavigated but by one traveller, Mr. Costigan. He very nearly accomplished it in eight days. Unfortunately he undertook it at a most insalubrious season of the year and died at the termination of the voyage, without leaving a journal or notes behind.

"This proposition pertains to a subject maritime in its nature, and therefore peculiarly appropriate to your office; and it is involved in mystery, the solution of which will advance the cause of science and gratify the whole Christian world."

The proposition came at a time when the Secretary was collecting all the available forces of the Navy for the combined attack upon Vera Cruz. He promised to consider the matter as soon as a favorable opportunity should occur. And an opportunity did occur which made the expedition most apropôs: The Spanish government had withdrawn the privilege hitherto allowed us of having at Port Mahon a depot of stores for our squadron in the Mediterranean. It was therefore found necessary to send out a store-ship to that sea, and to keep her there with provisions, &c. on board, to supply the wants of the squadron as they arose.

The store-ship "Supply" was fitting out at New York for this purpose. After delivering to the squadron enough to satisfy for the time, a large portion of her stores would still be left on board, and she would have to remain in port for several months, waiting for the first delivery to be consumed. If she continued in port her officers and crew would continue with her of course, dragging out a profitless and tedious time, if not contracting idle habits from the mere want of occupation.

Lieut. Lynch was a most accomplished seaman. Officers were scarce, for most of them had been sent down to the Gulf, and the cargo of the "Supply" was a valuable one. It therefore occurred to the practical and business mind of the Secretary, to send Lieut. Lynch in command of the "Supply," with his party as a part of her crew to the Mediterranean—to let her report to the Commodore, meet the wants of the squadron, and then, instead of lying idle in port, doing nothing but wait for the men-of-war to eat up what she had given them, to allow her to proceed with Lieut. Lynch up the Levant, and land him and his party, taking care that after landing them, men enough should be left on board to manage the ship.

Instead therefore of idleness, here was active, useful and creditable occupation for a part of her crew, while the remainder could, as well as a thousand men, take care of the ship in port, or in her short and pleasant trips of a few days from place to place. The arrangement was admirable. Lynch was in the very nick of time with his proposition, and the opportunity presented was a glorious one.

While, therefore, the preliminary arrangements are in progress here, let us take a glance at what was transpiring in another quarter of the globe, with regard to the same subject.

At the very time that Lieut. Lynch was engaged with his preparations in New York, Lieut. Molyneux, a gallant officer of the British Navy, was actually engaged in transporting on the backs of camels and from the very point suggested by Lieut. Lynch, a boat for the survey of the Dead Sea.

The plans of these two officers for approaching and exploring that sheet of water were remarkably similar. Neither knew that the thoughts of the other were in that direction at all. But, that two Navy officers of different services, and in parts of the world far remote, should each without the knowledge of the other, be engaged with the same

original idea, is one of those curious coincidences of mental sympathy which is sometimes observed to take place among men of science. The coincidence is as striking as the case of Le Verrier and Adams with the new planet.

On the 20th of August 1847, Lieut. Molyneux of H. M. S. Spartan, was landed at Acre with a few seamen. Hiring guides, camels and horses, he started early the next morning with the ship's dingey—a very small boat—for the sea of Galilee, and on the 23rd he was embarked on its blue waters.

The natives manifested great reluctance to his descending the Jordan. But by a show of arms with threats to shoot the Sheiks who annoyed him on the way, he made good his descent, though it was in part accomplished by land.

The 3rd of September found him fairly embarked on the Dead Sea. The greatest depth which he found is said to be 1350 feet. At noon on the 5th the party returned to their tent, on the shore, completely done up. Every thing and body in the tent was covered with an offensive, shiny substance from the water. The iron was corroded and looked as if covered with coal tar.

Having disembarked, the dingey was again mounted on the backs of camels, and the party proceeded with it to Jerusalem. Lieut. Molyneux returned to his ship by way of Jaffa, and died soon after getting on board.

The news of his melancholy fate could not, when it reached them, fail to excite painful emotions in the minds of Lieut. Lynch and his party. But in happy ignorance of the event, he and they were in America, busy with their preparations. The "Supply" was fitting at New York as a store-ship for the Mediterranean squadron. Lieut. Lynch was designated to command her, and she was to be provided with two metallic boats instead of the usual boats of wood, one of which was made of iron and painted, the other of copper.

The stores being on board and the ship reported ready for sea, the necessary orders were issued. "The object with which I have yielded to your request," said the Secretary of the Navy in his admirably drawn letter of instructions, "is to promote the cause of science and advance the character of the Naval service."

All things being considered—we can scarcely imagine a more legitimate subject, an object more praiseworthy, or a more glorious opportunity for elevating the character of the Navy through its officers. The question was, should the sojourn of these officers in the Mediterranean be one of idleness on board a store-ship at her anchors, or should it be with them a labor of love and of usefulness in the cause of science? The Navy glories in useful occupation.

Provided with their simple outfits and the two boats aforesaid—the copper one, named "Fanny Mason," the iron, "Fanny Skinner," the party all in high spirits, set sail from New York about the middle of November, 1847.

It was, however, by no means certain that the object which these officers and men had so much at heart, could be accomplished, for the permission given was only conditional. It all now depended upon the Grand Turk. Unless he would give a firman with leave for Lieut. Lynch and party to visit and explore the Dead Sea, the expedition was to be considered at an end.

Lieut. Lynch, with his companion, Lieut. Dale, had therefore to proceed to Constantinople for the purpose of obtaining the requisite authority from the Turkish government. Business of a public nature called the Supply there. The Sultan treated them with marked consideration. He gave Lieut. Lynch a private audience, readily granted the firman addressed to the Governors of Jerusalem and Saida, requiring these functionaries to give that officer all needful aid and friendly assistance.

The Sultan was so much pleased with the interview, that the next day he sent for the Grand Vizier and expressed a wish to make the American officer a present "such as became a sovereign." This of course was declined, and the party were permitted to depart in peace. Every thing now bid fair, and "with a will to spare no exertion," wrote Lieut. Lynch to Judge Mason, "I trust in God for ability to deserve your good opinion."

On the last of March, the Supply landed the party at Kaiffa under Mount Carmel, and proceeded to execute her orders in the Mediterranean. Two American travellers, viz: Henry Bellow and Dr. H. J. Anderson, joined the party about this time.

All hands were now set to work in making the necessary arrangements for their departure into the interior. They met difficulties at every turn; at last they found out that they all proceeded from the rapacious and unprincipled Seid Bey, the Governor, who was endeavoring, by creating difficulties, to extort money. As soon as this discovery was made, Lieut. Lynch refused to have any thing more to do with him, and proceeded in his own way.

Seemingly insurmountable difficulties presented themselves. The boats had to be transported to the sea of Galilee over mountain gorges and heights which nothing larger than the sure-footed horses of the country had ever passed before. But the sailor resources of the party, supported by zeal in the noble enterprise, were sufficient to overcome them all. About noon of the third day, the party halted nine miles from Tiberias. Their tent was pitched on a mountain side, with Nazareth on the right, Cana to the north, Mount Tabor to the southeast; spread beneath them was the plain, on which

the bloody battle between the French and the English was fought, and three hours in advance was the sea of Galilee with its beautiful blue waters dancing in the sunbeams. Emblematic of its Master, it alone of all things around them, remained the same. Just as the Apostles saw it when our Saviour said to it, "Peace, be still," this little band of rovers now beheld it.

So far not an accident had occurred, nor a mishap of any kind, save that "Fanny Skinner" had got her paint rubbed a little.

After having surmounted incredible difficulties, still greater ones awaited them in this nine miles of distance. The boats had to be left in the mountains, while the exhausted party struggled forward to get water and to refresh themselves. The next day all hands returned to the boats. They had to be lowered down precipices with ropes. But at this work Jack Tar was perfectly *au fait*. Finally at 2 P. M., Saturday, of April the 8th, Lieut. Lynch had the satisfaction of reopening his despatch to announce the pleasing intelligence: "The 'Two Fannies,' each with the American ensign flying, are now afloat upon the sea of Galilee."

We can now, in imagination, hear, reverberating among the mountains, the soul-stirring cheers with which that flag was greeted, as the gallant leader of that gallant little band flung the star-spangled banner to the breeze for the first time upon the waters of that ancient and venerable sea.

The natives took the bright copper of the "Fanny Mason" to be gold, and looked upon her as an exponent of the greatness and wealth of the United States. They were friendly and offered the party no interruption in their progress.

Here Lieut. Lynch purchased for twenty-one dollars and a quarter the only boat on the lake, to assist in the transportation down the Jordan. That lake abounds now, as it did of old, with excellent fish and wild fowl. But that at this day there should be only one boat on that sea, and that used not for fishing, but for bringing wood across, and valued no higher than at $21 1-4, may be taken as a sign that no "fishers of men" are to be found there now.

With this little wooden boat, the "Two Fannies" and the river Jordan for the rest of the way, it was thought the difficulties of the route were at an end. But to the consternation of the party it was found that the difficulties were but just commencing. The course of the Jordan was found to be interrupted by frequent and most fearful rapids. But the party to a man felt now that their own honor, the reputation of the Navy, and the credit of their country were all at stake upon their efforts. To a man they gave their energetic leader the most hearty coöperation. "Sometimes placing our sole trust in Providence, we had," says he, "to plunge with headlong velocity down appalling descents." So great were the difficulties, that in two days they accomplished but twelve miles.

On the third day they were compelled from her shattered condition to abandon the Galilee boat, and to trust entirely to the "two Fannies."

May the 18th the party arrived at Masaraa, a place on the river consecrated by tradition for the passage of the Israelites and the baptism of the Redeemer; it is nine miles from Jericho, where the pilgrims cross. The passage is dangerous, and Lieut. Lynch tarried here for the purpose of lending them assistance should accident befall and assistance be required. The two graceful little "Fannies," with colors flying, were anchored on the other side, ready to succor and to help. Early in the morning the pilgrims began to arrive, and by 5 o'clock there were several thousand already on the bank.

The great secret of the depression between Lake Tiberias and the Dead Sea, is solved in the opinions of Lieut. Lynch, by the tortuous course of the Jordan. In a distance of about sixty miles that river winds along through a course of about two hundred miles. Within that distance he and his party plunged down no less than twenty-seven threatening rapids, besides many others of less descent.

The difference of level between the sea of Galilee and the Dead Sea has been stated at over a thousand feet. But it has been urged by some that this could not be so, else the Jordan in its run of 60 miles would be a continuous cataract. The Mohawk, it was thought, was among the rivers of the greatest fall in the world, and it averages only four or five feet to the mile. But it is now known that the Sacramento of California has a fall of 2000 feet in 20 miles, on an average of 100 feet to the mile. With Lieut. Lynch's discovery and explanation as to the length of the Jordan, it is necessary to give it an average fall of only about 6 feet in each mile to account for the difference of level between its source and mouth.

"A few weeks earlier or later," says he, "and the passage would have been impracticable. We are the first who have accomplished the entire descent. The small English boat last year, (Lieut. Molyneux's *dingey*,) was taken partly on a camel, and the officer made the journey by land. His notes were unfortunately taken in cipher, and by his death, are, I am told, lost to the world."

Leaving Masaraa, Lieut. Lynch took the lead in the "Fanny Mason," followed by passed midshipman Aulick in the "Fanny Skinner," while Lieut. Dale with his friendly Bedouins, and a few others, accompanied the baggage and stores by land, for it was necessary to carry provisions along. After separating in the morning, the two parties saw no more of each other until they met at night.

With an hour's pull the two boats stopped to fill their gum elastic water breakers. This accomplished, the party resumed their oars, and were soon led to expect the close proximity of the Dead

Sea, from a fœtid odor—but this was traced to two streamlets strongly impregnated with sulphur. The Dead Sea, however, soon burst upon their view, into which the little boats bounded with a northwest gale.

The water of the river was sweet to within a few hundred yards of its mouth. The waters of the sea were devoid of smell, but they were bitter, salt, and nauseous.

"As we rounded to the westward," writes Lieut. Lynch, "the agitated sea presented a sheet of foaming brine. The spray, separating as it fell, left incrustations of salt upon our faces and clothes, and while it caused a pricking sensation wherever it touched the skin, was above all exceedingly painful to the eyes.

"The boats heavily laden, struggled sluggishly at first, but when the wind freshened to a gale, it seemed as if the bows, so dense was the water, were encountering the sledge-hammers of the Titans, instead of the opposing waves of an angry sea.

"At the expiration of an hour and a half, we were driven far to leeward, and I was compelled to bear away for the shore. When we were near to it, and while I was weighing the practicability of landing the boats through the surf, the wind suddenly ceased and with it the sea rapidly fell—the ponderous quality of the water causing it to settle as soon as the agitating power had ceased to act. Within five minutes there was a perfect calm, and the sea was unmoved even by undulation. At 8 P. M., weary and exhausted, we reached a place of rendezvous upon the northwest shore."

The three succeeding days were devoted to sounding.

Resting over Easter Sunday, the party resumed operations the next day, making topographical sketches as they went, and touching at a copious stream issuing from hot springs, and the mouth of the river Amon of antiquity. They proceeded thence by degrees to the southern extremity of the sea, where the most wonderful sight that they had yet seen awaited them.

"In passing the mountain of Uzdom, (Sodom,) we unexpectedly and much to our astonishment," continues our adventurous explorer, "saw a large, rounded, turret-shaped column facing towards S. E. which proved to be of solid rock salt, capped with carbonate of lime; one mass of chrystalization. Mr. Dale took a sketch of it, and Dr. Anderson and I with great difficulty landed and procured specimens from it."

The sea soon proved so shallow that they could proceed no further. Half a mile from the southern shore they found but six inches water, and beyond, an extensive marsh too yielding for a foothold.

Near the eastern shore they encountered a sirocco, which came sweeping from the southeast across the desert of Arabia with a stifling heat. At 8 P. M. their thermometer, which before had ranged from 88° to 97°, stood at 106°. "We could not take our tents with us," says the interesting letter from which we are quoting, "nor did we need them, as we found it more agreeable sleeping in the open air upon the beach."

Having circumnavigated the Lake and returning to their place of departure, they found the sad intelligence of Mr. Adams' death awaiting their arrival. Their colors were lowered at half mast, and there out upon the dark waters of this mysterious sea, this little band of true-hearted Americans paid a tribute to the memory of the patriot and statesman, with 21 minute guns fired from their frail vessels. The echoes from the cavernous recesses of the lofty and barren mountains which surrounded them, startled the Arabs, and reverberated loudly and strangely upon the ears of the mourners.

The letters of Lieut. Lynch giving an account, *currente calamo*, of his proceedings, are of great value and exceeding interest. We hope soon to have the pleasure of announcing his return to the United States and of welcoming him and his companions back to country, home and friends.

"We have," says he, "elicited several facts of interest to the man of science and the Christian.

"The bottom of the northern half of this sea is almost *an entire plain*. Its meridianal lines at a short distance from the shore scarce vary in depth. The deepest soundings thus far 188 fathoms, (1128 feet.) Near the shore, the bottom is generally an incrustation of salt, but the intermediate one is soft mud with many rectangular chrystals—mostly cubes—of pure salt. At one time Stellwagen's lead brought up nothing but chrystals.

"The southern half of the sea is as shallow as the northern one is deep, and for about one-fourth of its entire length the depth does not exceed three fathoms—(18 feet.) Its southern bed has presented no chrystals, but the shores are lined with incrustations of salt, and when we landed at Uzdom, in the space of an hour, our footprints were coated with chrystalization.

"The opposite shores of the peninsula and the west coast present evident marks of disruption.

"There are unquestionably birds and insects upon the shores and ducks are sometimes upon the sea, for we have seen them—but cannot detect any living thing within it; although the salt streams flowing into it, contain small fish. My hopes have been strengthened into conviction, and I feel sure that the results of this survey will fully sustain the scriptural account of the cities of the plain.

"With one exception we are all well, save to that one, not a dose of medicine has been administered—and his disease is neither caused nor affected by the climate. Although we are up early and out long, living on two meals a day, save when we are restricted to one, there is no complaining,—

all seem to be actuated by a high sense of duty. The preserved meats have proved almost worthless, few being able to eat them, and sometimes our only food is rice. Oranges and lemons, luxuries in our happy country, are here, from the want of vegetables, absolute necessaries. Still, as there are cavillers at home, I have once sent to Jerusalem and purchased them for the men at my own expense.

"The expense of guards to our baggage while we are absent, I am obliged to incur, as also for their transportation from place to place, for the boats can carry no more than the officers and men; the arms, instruments, food and water. The whole cost from Beirout to this place, including purchases, transportation of boats, camels, horses, guards and guides amounted to about $700. I strive to be economical.

"With the Arabs we are on the most friendly terms. In accordance with the tenor of my orders, I have agreed to pay them fairly for all the services they may render and provisions they may bring—but for nothing more. Thus far, two false alarms excepted, we have been undisturbed in our progress and operations. I scarce know what we should have done without the Arabs. They bring us food when nearly famished, and water when parched with thirst. They act as guides and messengers, and in our absence faithfully guard our tents, bedding and clothes. A decided course, tempered with courtesy, wins at once their respect and good will. Although they are an impetuous race, not an angry word has thus far passed between us. With the blessing of God, I hope to preserve the existence of harmony to the last.

"The Jordan, although rapid and impetuous, is graceful in its windings and fringed with luxuriance, while its waters are sweet, clear, cool and refreshing.

"Even if my letter were more brief, this is not a proper place to dwell upon the wonders of this sea, for wondrous it is, in every sense of the word, so sudden are the changes of the weather and so different the aspects it presents, as at times to seem as if we were in a world of enchantments. We are alternately beside and upon the brink and the surface of a huge and sometimes seething cauldron."

The greatest depth obtained was 218 fathoms, (1308 feet.) Having completed the survey of the sea, the party proceeded to determine the height of mountains on its shores, and to run a level thence via. Jerusalem to the Mediterranean. They found the summit of the precipitous ridge which forms the west bank of the Dead Sea, to be more than a thousand feet above its surface, and very nearly on a level with the Mediterranean.

It is a curious fact, that the distance from the top to the bottom of the Dead Sea, should measure the height of its banks, the elevation of the Mediterranean, and the difference of level between the bottom of the two seas, and that the depth of the Dead Sea should be also an exact multiple of the height of Jerusalem above it.

Another not less singular fact, in the opinion of Lieut. Lynch, "is that the bottom of the Dead Sea forms two submerged plains, an elevated and a depressed one. The first, its southern part, of slimy mud covered by a shallow bay; the last, its northern and largest portion, of mud and incrustations and rectangular chrystals of salt—at a great depth with a narrow ravine running through it, corresponding with the bed of the river Jordan at one extremity and the Wady 'el Jeib,' or wady within a wady at the other."

The *slimy* ooze upon that plain at the bottom of the Dead Sea will not fail to remind the sacred historian of the "slime pits" in the vale, where were joined in battle "four kings with five."

June the 9th, the whole party after an absence of a little over two months, had returned to St. Jean'd'Acre on the Mediterranean. They brought back their boats in as complete order as they received them on board at New York. The party were in fine health. Save a flesh wound to one man from the accidental discharge of his piece, not an accident or mishap had occurred to any one. The Arabs would point to them and say, "God is with them."

Lieut. Lynch has endeared himself to his countrymen; his Christian brethren look upon him with pride, and the whole Christian world with eager interest await his return and the forthcoming of his final Report.

By this expedition problems, great and important in the eyes of Christendom, have been solved by the American government, and that too at a cost too trifling to be named in such connexion.

Seven hundred dollars for a scientific exploration of the Dead Sea! There is not a village church in the land, where if the matter had been proposed, such a sum could not have been raised at once for the work. Still, there be "cavillers at home," and as of old, so now, there be those who can "strain at a gnat and swallow a camel." But the enlightened and patriotic minds which planned, set on foot, and consummated this undertaking, have also their reward: the *mens conscia*, the sense of having so used their high privileges of place as to advance the honor of their country and the glory of God; the approving "well-done" of a Christian people, and the grateful acknowledgment of wise and good men every where, are only a part of the great rewards which they deserve, and which we hope they may long live to enjoy.

Alluding to the devotion of an ancient sculptor to his labors, Madame de Staël has finely said, "The history of his life was the history of his statue."